

WHAT IS CLAIMED IS:

1. An electronic control device comprising first and second ceramic substrates on which electronic components, including a semiconductor component, are mounted, the ceramic substrates housed by a case, wherein the second ceramic substrate is fixed to a top face of the semiconductor component mounted on the first ceramic substrate.

2. The electronic control device according to claim 1, wherein the second ceramic substrate has an electronic component on at least one of surfaces thereof.

3. The electronic control device according to claim 2, wherein the first ceramic substrate is electrically connected with the second ceramic substrate.

4. The electronic control device according to claim 3, further comprising a connecting member arranged between the first and the second ceramic substrates, wherein:

the connecting member has a wiring member; and

the first ceramic substrate is electrically connected via the wiring member.

5. The electronic control device according to claim 3, wherein the first ceramic substrate is electrically connected with the second ceramic substrate via a flexible substrate.

6. The electronic control device according to claim 1, further comprising a flip chip type electronic component, wherein:

the semiconductor component is mounted to the first ceramic substrate via the flip chip type electronic component so that the top face of the semiconductor component is positioned higher than other electronic components.

7. The electronic control device according to claim 6, wherein the flip chip type electronic component is made of a ceramic material.

8. A method for manufacturing an electronic control device having electronic components, including a semiconductor component, mounted on a first and a second ceramic substrate, comprising:

mounting the semiconductor component on the first ceramic substrate; and

fixing the second ceramic substrate to a top face of the semiconductor component.

9. The method for manufacturing the electronic control device according to claim 8, wherein the mounting step and the fixing step are completed by reflow soldering along with mounting electronic components on the first and the second ceramic substrates.

10. An electronic control device comprising:

a substrate on which electronic components, including a semiconductor component, are mounted and having connecting pins electrically connected thereto for connecting the substrate to an external device; and

a case for housing the substrate, wherein

the connecting pins are electrically connected to the substrate via electrodes formed on one of the faces of the substrate by connecting base ends of the connecting pins to the electrodes, and

the connecting pins are passed through pin holes formed in the case and tips of the connecting pins are exposed to an outside.

11. The electronic control device according to claim 10, the connecting pins are fixed to the case by filling an isolating adhesive in the pin holes.

12. The electronic control device according to claim 11, wherein the isolating adhesive is made of a low-melting glass material.

13. The electronic control device according to claim 12, wherein the low-melting glass material is a borosilicate glass material.

14. The electronic control device according to claim 10,

wherein each connecting pin has a curved portion

15. The electronic control device according to claim 10,
wherein the circuit substrate is a ceramic substrate.